Subject Interstate/Freeway Ramp widths

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Reply to Attn HB-AZ (520)

To

All Engineers

Several questions have arisen concerning the design criteria to be applied to ramp widths on Interstate Highways and other freeways. The discussion on pages 1028-1030 of the Green Book (1984) provides guidance, but also creates some confusion. The following discussion is intended to clarify the guidance provided and to establish a consistent policy on Federal-aid projects in Arizona.

1. The AASHTO Policy on Design Standards for the Interstate System does not specifically address ramp widths; consequently, there is no nationally recognized minimum width for ramps.
2. The AASHTO Policy on Geometric Design of Highways and Streets 1984 (Green Book) provides design widths for several varying conditions, including type of operation (one way, two way, two lane, provision for passing stalled vehicle, etc.), type of traffic, and ramp curvature. These widths are shown in Table X-3 on page 1028.

3. As a general policy, all single lane Interstate and other freeway ramps should be designed to provide adequate space for passing a stalled vehicle, ie, Case II in Table X-3.

4. As a general policy, all Interstate and other freeway ramps should be designed to accommodate Traffic Condition C (bus and truck combination vehicles govern design). Traffic Condition C is used primarily because of concern over the continuing growth in truck volumes and truck size (length and width). However, Traffic Condition B (single-unit trucks govern design) will be considered appropriate for ramps at rural interchanges with very low volumes and very little potential for development or significant traffic growth. Ramp traffic volumes below 100 vpd are considered very low.

5. Widths shown under Case II in Table X-3 are minimum required paved widths (in feet), including traveled way and paved (stabilized) shoulders.

a. When barrier curbs are located on both sides of. a ramp, one foot should be added to the minimum width shown.

b. When paved (stabilized) shoulders which have a lesser structural section (thickness) than the pavement are located on one or both sides of a ramp, the minimum ramp pavement width should be the width shown under Case I for the same radius and traffic condition. (Typical example - PC concrete ramp pavement with bituminous stabilized shoulders)

NOTE - Since ADOT normally uses the same structural section for the entire paved width, including paved shoulders, this criterion would not normally apply in Arizona.

6. When ramp shoulders are paved (stabilized), the total paved width of the traveled way and shoulders should not exceed the width shown under Case I plus 12 feet.

7. Two-lane ramps should provide the widths shown under CaseIII and Traffic Condition C in Table X-3.

8. Normal intersection geometric criteria would apply to ramps in close proximity to the ramp/crossroad intersections.

9. Ramps should tie striped in accordance with ADOT Standard Drawing 4-M-1.09, which specifies the following patterns:

Total Paved Width (including shoulders)	Lane Width	Rt. Shoulder Width	
18	14	2	2
22	14	6	2
24	16	6	2

Deviations from these general policies will be considered as design exceptions.

In general, ADOT's current practice of providing a 22-foot paved width on all ramps will meet the minimum requirements for Traffic Condition C on all but the short radius ramps (less than 300 foot radius.

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